

Students in Broward County Schools Achieve Substantial Reading Gains for Third Grade Students during Summer Reading Intervention

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This study investigated the program effects of Voyager Passport™ on the reading achievement of third grade students in the Broward County Public Schools who used this product as part of the summer intervention. This study used a pretest posttest quasi-experimental design. The study participants included 1,595 students in the third grades during the summer of 2006. Student growth was measured using oral reading fluency, as measured by the Vital Indicators of Progress (VIP®) Reading Connected Text (RCT) assessment. Students who participated in Voyager Passport showed greater than expected gain during the summer intervention session.

INTRODUCTION

Reading is a complex process of converting printed symbols into language and meaning and is among the most important scholarly activities a person masters. Students require at least grade-level reading ability to read literature and textbooks in the majority of school subjects (Henry, 2003). When students struggle with learning to read it is common place to provide intervention including instruction during the summer months to prevent a widening of the gap between them and their normally achieving peers.

Current research converges on the certainty that few students acquire reading naturally, and that most students benefit from explicit and direct, structured instruction (National Reading Panel, 2000). This research, based on sound, scientific observations and analyses, provides evidence for not only what instruction works, but why and how it works (Reyna, 2004). Those students who struggle learning to read are served as well in small groups of three to four students as they are individually (Torgesen, 2004; Vaughn & Linan-Thompson, 2003).

A review of research regarding summer learning loss indicates that on average students' grade-level equivalent is at least one month lower in the fall than it was at the end of the previous school year. Even normally achieving students typically experience learning losses when they do not engage in educational activities during the summer. Research shows that students often score lower on standardized tests at the end of summer vacation than they do on the same tests at the beginning of summer (Cooper, 2001).

The students in the third grade in the Broward County Public Schools, based on their spring FCAT scores, were invited into the summer reading intervention to improve

their reading skills to the point where they could be promoted to the fourth grade. *Voyager Passport* was chosen as the reading intervention program during the summer session.

Many studies have shown a strong correlation between reading fluency and reading achievement. Drs. Julie Buck and Joseph Torgesen explain the relationship between oral reading fluency and performance on the FCAT in their oft cited study: *The Relationship Between Performance on a Measure of Oral Reading Fluency and Performance on the Florida Comprehensive Assessment Test*. Oral Reading Fluency is the key to predicting which students will achieve grade-level reading. Several studies show that more than 80% of students who can read third-grade level text at a rate of 110 words per minute pass the high-stakes state reading assessments.

Oral Reading Fluency, as measured by the VIP measure Reading Connected Text (RCT) is based on the work on Curriculum-Based Measurement by Stan Deno and colleagues through the Institute for Research on Learning Disabilities, University of Minnesota. Oral reading fluency is a quick, reliable measure that correlates highly with reading comprehension (Deno, 1985).

The goal of summer intervention with these students was to afford them the increased exposure to reading accessible text thereby enabling them to become more proficient readers. A practical measure to monitor their reading proficiency is an oral reading fluency indicator.

METHODS

Participants

During the summer of 2006, 1,595 grade 3 students at 16 schools in the Broward County School District in Florida

used the Passport program in a summer school setting. Ninety percent of the participants had reported demographic information. Students were 41% female and 59% male. Ethnic or racial background of participants was African American (56%), Asian (1.5%), Hispanic (26%), Multiethnic (2%), and White (14%). Approximately one fourth (27%) of the students were classified as ESL, but not receiving services, while the remainder were English proficient. Two thirds of the students were disadvantaged based on qualification for free lunch.

Implementation

The summer reading intervention was provided for 4 weeks (20 instructional days). Two *Voyager Passport* lessons were delivered every morning, for a total of 40 lessons across the intervention period. Students spent about three and a half hours per day concentrating on reading. Summer teachers received training at the beginning of the program and received support from Voyager field implementation specialists. The teachers were responsible for the testing of the students and for placing the assessment scores into VPORT®, the Voyager data management system.

Materials

Voyager Passport provides direct, systematic instruction in each of the essential reading components and is designed as an intervention program for students for whom the core reading program is not sufficient. The lessons are based on the scientific knowledge about effective reading instruction. The lessons address decoding strategies, fluency, and comprehension. Each student receives a set of individual instructional materials for the duration of the program. One main goal of the program was to help students maintain and where possible accelerate their reading fluency.

Phonemic Awareness: To make the greatest gains in reading, students must learn to blend and segment individual sounds in words. Student gains in reading and spelling are strongest when print is integrated with phonemic awareness instruction (Hatcher, Hulme, & Ellis, 1994). For third grade students, the phonemic activities are integrated into the phonics and spelling lessons where students can apply knowledge of the alphabetic principle and coordinate orthographic, phonemic, and graphemic knowledge.

Phonics: Phonics instruction is the systematic use of sound-symbol relationships to teach the reading and writing of words. *Voyager Passport* utilized the extensive research base in phonics to develop systematic and explicit phonics and spelling lessons, shown to be the most effective way to ensure appropriate reading growth (National Reading Panel, 2000). The instruction builds in difficulty incorporating letter combinations,

affixes, and strategies for decoding multisyllabic words. Words with irregular spelling patterns are also taught explicitly with extensive review.

Fluency: Fluency is the ability to accurately and quickly read text. Fluent reading allows readers to focus on comprehending and gaining meaning from text. Fluency instruction in *Voyager Passport* provides specific time for practicing reading and rereading text accurately, efficiently, and with expression. Once students can read connected text, repeated reading with feedback is an effective practice for improving fluency and reading achievement (Chard, Vaughn, & Tyler, 2002; Homan, Klesius, & Hite, 1993; National Reading Panel, 2000). As students develop more advanced reading skills, fluency lessons focus on text-level reading with teachers modeling appropriate reading rates and expression. Strategies for chunking text are also explicitly taught and timed readings motivate and challenge students to improve their reading rates.

Vocabulary: Vocabulary refers to the words a person understands and uses in listening, speaking, reading, and writing. Students learn word meanings through direct and indirect experiences with oral and printed language (Beck, McKeown, & Kucan, 2002; National Reading Panel, 2000). *Voyager Passport* addresses vocabulary instruction through a sequence of word introduction, with read-alouds, student passage reading, comprehension activities, and text discussions. The design allows repeated exposure to new vocabulary in a variety of contexts using oral and written language.

Comprehension: Comprehension is the ability to understand and gain meaning from language. Snow, Burns, and Griffin (1998) assert that the student needs both background knowledge and conceptual sophistication to understand the meaning of a word or text. Students extract meaning as well as construct meaning as they build representations and gain new meaning (Snow & Sweet, 2003). *Voyager Passport* teaches strategies for understanding text, including teaching students to monitor their comprehension, organizing and retelling information presented, recognizing story structure, generating questions about the text, predicting outcomes in the text, and confirming or revising predictions (National Reading Panel, 2000; Pressley & Wharton-McDonald, 1997; Rosenshine, Meister, & Chapman, 1996).

Assessments

Voyager Passport provides Vital Indicators of Progress (VIP®) measures developed by Dr. Roland Good and colleagues at the University of Oregon which are one-minute individually-administered fluency indicators to monitor growth in *Voyager Reading Programs* and are completely equivalent to DIBELS™. Concurrent

validity with the DIBELS/VIP passages and the TORF (Test of oral reading fluency) ranges from .91 to .96 across the passages. The cutoffs and goals are based on finding a point where the odds would be in favor (at least 80%) of the student achieving subsequent literacy outcomes as developed by the DIBELS™ Benchmarks (Good, Simmons, Kame'enui, Kaminski, & Wallin, 2002). Results for the VIP benchmarks identify if a student is a struggling, an emerging, or an on-track reader.

The RCT measure (Reading Connected Text) is a standardized, individually administered test of reading fluency with connected text for students in grades 1 through 5 and above. RCT is a set of equivalent passages and administration procedures designed to identify students who may need additional instructional support, and to monitor progress toward instructional goals.

Student performance is measured by having students read a passage aloud for one minute. Words omitted, substituted, and hesitations of more than three seconds are scored as errors. Words self-corrected within three seconds are scored as accurate. The number of correct words per minute from the passages is the oral reading fluency rate which is reported as the "RCT score." The tool provides information on student performance in English.

Typically the DIBELS™ (Dynamic Indicators of Basic Early Literacy Skills) goals are used with the VIP® fluency measures based on time of year (Good, Simmons, Kame'enui, Kaminski, & Wallin, 2002). The Hasbrouck and Tindal Oral Reading Fluency Norms (2006) are mentioned as a point of reference for oral reading fluency where appropriate. The DIBELS/VIP passages however are standardized passages based on end of grade level reading targets and calibrated across nine readability formulas. Hasbrouck and Tindal Norms were developed using data collected from real teachers across the nation using the text they selected individually perceived as grade level text. In both cases the samples for the norms are quite substantial and provide valuable and reliable reference points for oral reading fluency. For the purposes of this study, the end of year DIBELS goal of 110 words per minute is used.

Data Gathering and Analysis

Each teacher was responsible for the administration and recording of student scores into the VPORT system at the beginning and ending of the summer session. Students who completed both RCT assessments were included in the analysis. Effect size was computed using Cohen's *d* (Cohen, 1988).

Effect size is a way of determining if an intervention made a difference or had the intended result of

improving student performance. The effect size indicates how much the mean or average of the group is moved as the result of the intervention, as measured by the assessments. Effect sizes are based on unadjusted Initial and Final test means. Effect sizes are calculated by dividing the difference between Initial and Final test means by the pooled standard deviation of the Initial and Final Tests. An effect size of 1.0 indicates the mean of the group moved a full standard deviation between assessments. An effect size of 0 indicates the group made no improvement between assessments. Generally, an effect size of .2 is considered a small effect, .5 is moderate, and .8 is large (Cohen, 1988). In education an effect size of .3 is considered educationally meaningful. Given this is such a brief intervention period during the summer smaller effect sizes would be expected.

Reading Connected Text (RCT) determines a student's fluency rate when reading a grade-level passage. Students are assigned an overall reading status based on their assessments and the progress they are making. Status categories are "Struggling," "Emerging," and "On Track." During the summer session, the goal for students is the same as the goal at the end of the third grade, or 110 words per minute.

RESULTS

Participation Level

Out of the original number of students registered for the summer intervention, 1,323 of the students were assessed at both the beginning and ending benchmarks. Of that number, 140 (10.6%) students did not have any demographic data and are represented as having "No status." All of the 1,323 students were used in the analysis. Of the 1,183 students with demographic data, 39.7% are male and 60.3% are female, 1.4% of the students are Asian, 59.4% Black, 23.9% Hispanic, 0.2% Native American, 2.1% Other, and 13% White. Additionally, 25.4% of the students qualify as ESL and 65.6% qualify for free or reduced lunch.

Assessment Results

Ninety-eight percent of the students had a Benchmark 1 RCT score and 85% had a Benchmark 2 RCT. An RCT gain score was computed by subtracting the first Benchmark RCT from the second Benchmark RCT. All analyses used a .05 criterion for identifying statistical significance. Analysis of variance was used to assess differences in RCT gain based on demographic variables.

The following table presents the results of the pre- and post-tests, along with standard deviations (SD) and Cohen's *d* for each group of students.

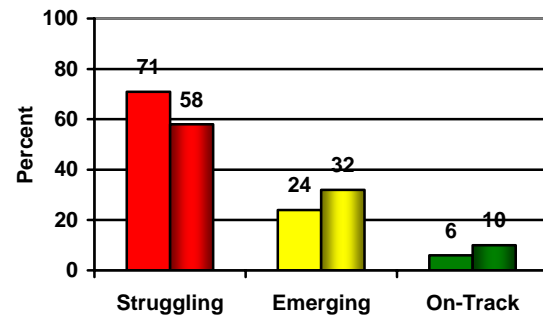
Pre-Test Post-test Table by subgroups

	N	Pre-Test	SD	Post-Test	SD	Cohen's <i>d</i>
Overall	1323	64.42	28.963	74.63	27.777	0.36***
Gender						
Male	470	64.78	27.517	74.80	26.246	0.37***
Female	713	63.58	29.552	73.75	28.275	0.35***
No status	140	67.48	30.603	78.51	29.987	0.36***
Ethnicity						
Asian	17	58.65	29.971	76.82	29.082	0.62***
Black	702	65.55	28.656	75.50	26.430	0.36***
Hispanic	283	62.24	29.790	71.74	29.116	0.32***
Native Am.	2	66.50	2.121	84.00	1.414	
Other	25	64.60	28.384	75.32	27.235	0.39*
White	154	61.08	27.219	71.94	28.982	0.39***
No status	140	67.48	30.603	78.51	29.987	0.36***
English as Second Language						
ESL	300	59.41	30.295	69.74	28.748	0.35***
Unknown	883	65.64	28.056	75.67	26.888	0.37***
No status	140	67.48	30.603	78.51	29.987	0.36***
Free/Reduced Lunch						
Qualifies	776	63.19	29.000	73.36	27.352	0.36***
Does not qualify	407	65.72	28.244	75.71	27.693	0.36***
No status	140	67.48	30.603	78.51	29.987	0.36***

* $p < .05$
 *** $p < .001$

At the first Benchmark, 71% of students were classified as Struggling, 24% as Emerging, and 6% as On-Track. By the second Benchmark, 1,349 students were classified as 58% Struggling, 32% Emerging and 10% On-Track (Figure 1). The average oral reading fluency score at the beginning of the summer intervention was 64.4 words per minute which is between the 10th and 20th percentile based on Hasbrouck and Tindal end of year third grade norms. At the end of the summer intervention the average oral reading fluency score was 74.6 words per minute which is just between the 20th and 25th percentile based on end of grade level norms.

Figure 1. Passport reading status categories for Benchmark 1 and 2.



DISCUSSION

Students made substantial gains during the summer intervention. It is likely that this intensive dosage of intervention in larger quantities of time than would occur during a typical school day gave these students the boost in reading that they needed. Reading instruction for struggling readers is most effective when taught in small groups and summer intervention affords that opportunity. The explicit lessons move at a quick pace to ensure students have ample practice opportunities while using every minute of instructional time. The feedback students received during connected text reading proved to have an impact on their fluency. Incorporating practice and judicious review in daily lessons provides the setting where reading growth is at its highest (Coyle, Kame'enui, & Simmons, 2001).

CONCLUSION

Students participating in the 2006 summer reading intervention in Broward, as measured by having two assessments, all showed remarkable gain for a short period of time. This allowed these students to start the next school year in a good position to sustain the growth. It appears that Passport provided students with opportunities to practice reading text at their instructional level with support and instruction that enabled them to increase their overall oral reading fluency rates. The students with matched scores realized a tremendous and significant gain in their oral reading fluency according to the scores entered in VPort. The growth in oral reading fluency has increased the likelihood that students will be able to engage in grade-level content across subject areas where reading is required.

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